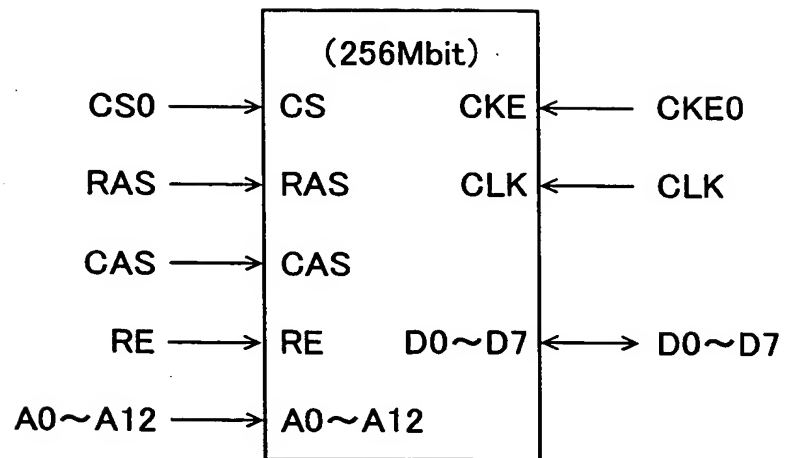


Fig. 1

FIG. 2

BANK1



BANK2

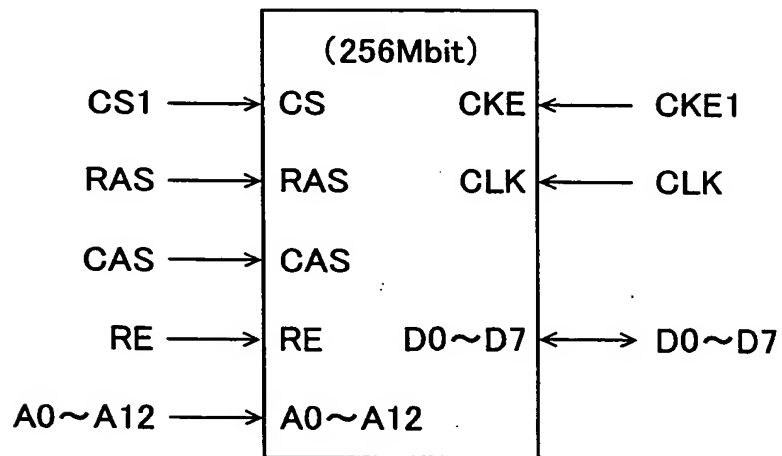
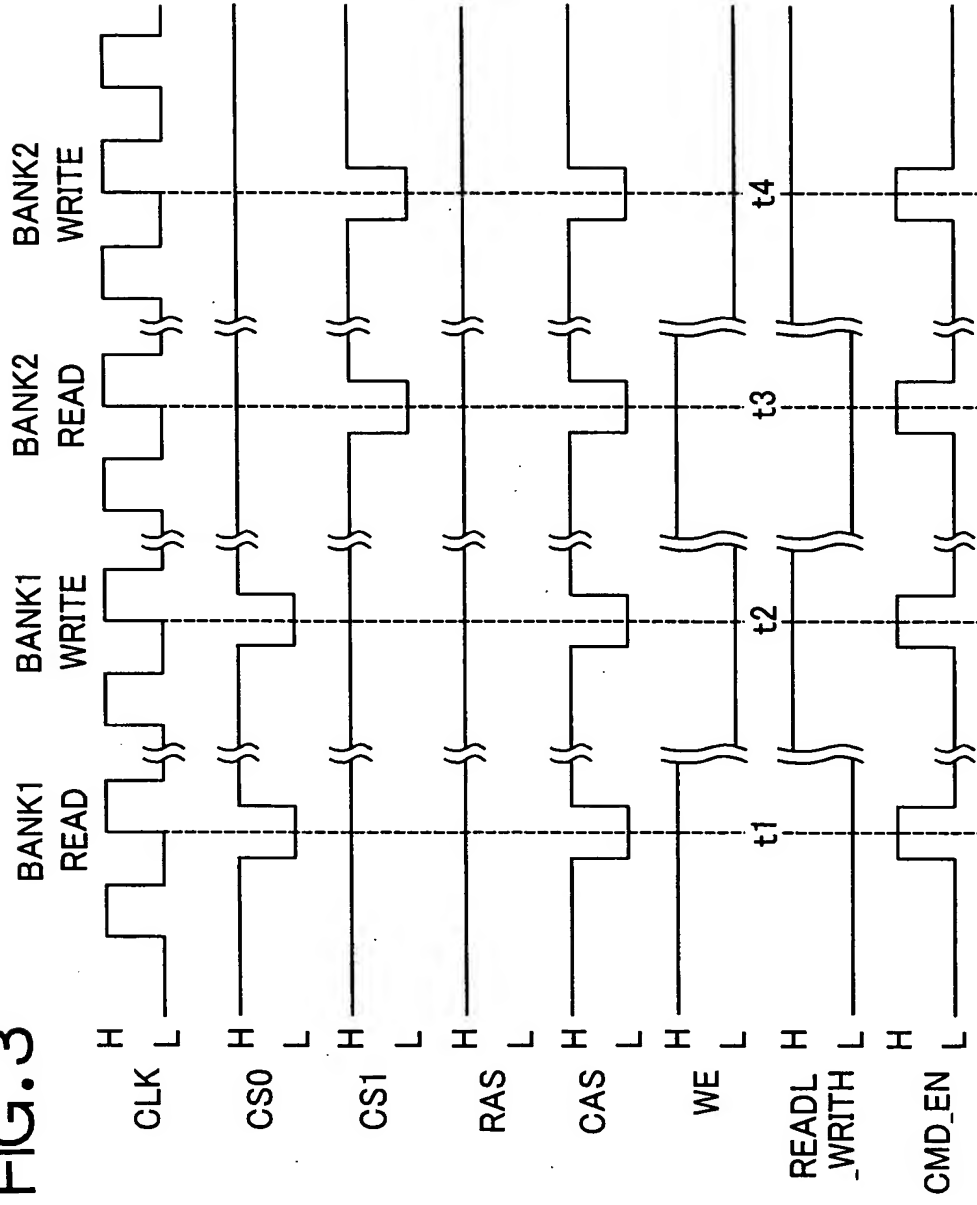


FIG.3



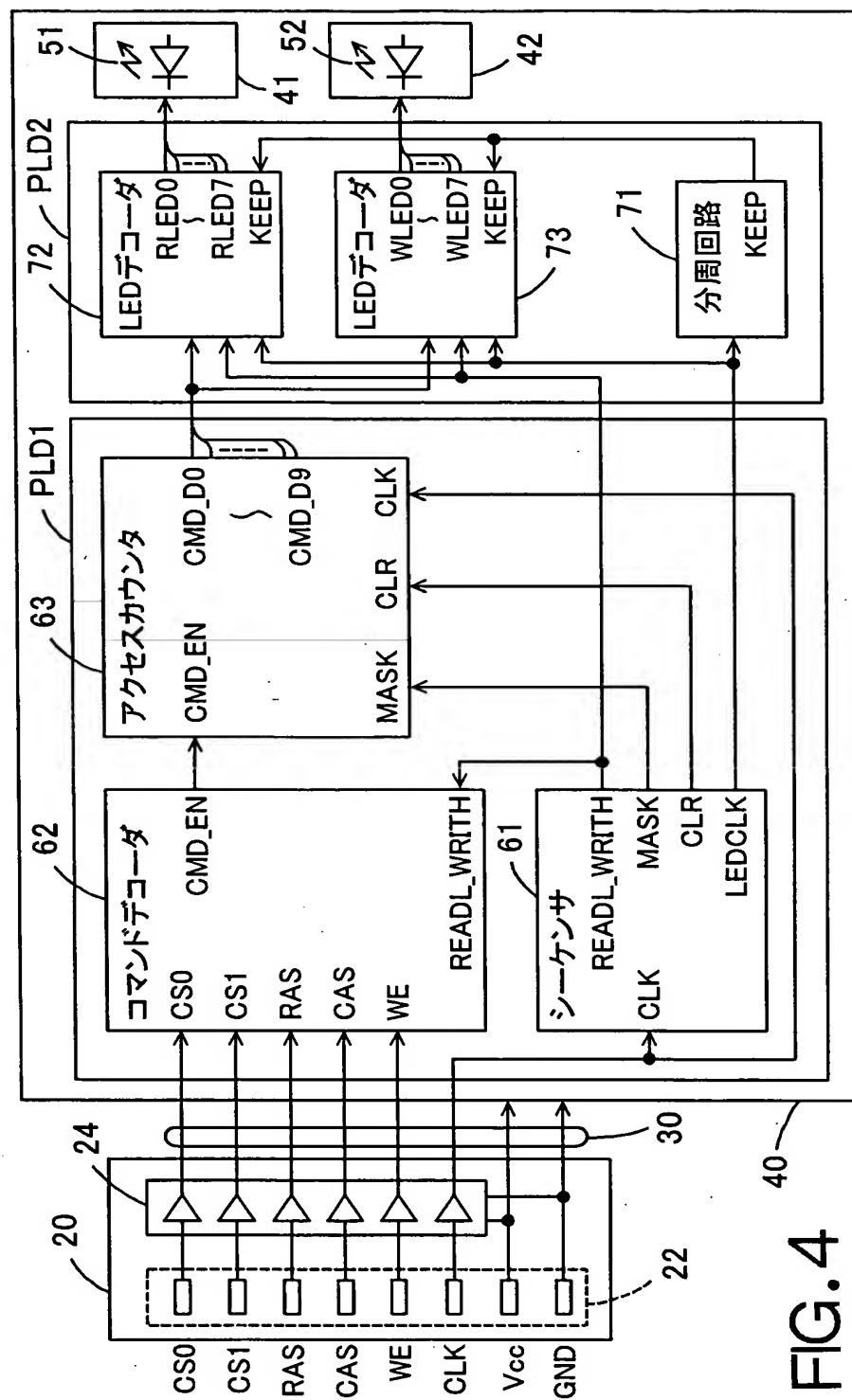


FIG.4

FIG. 5

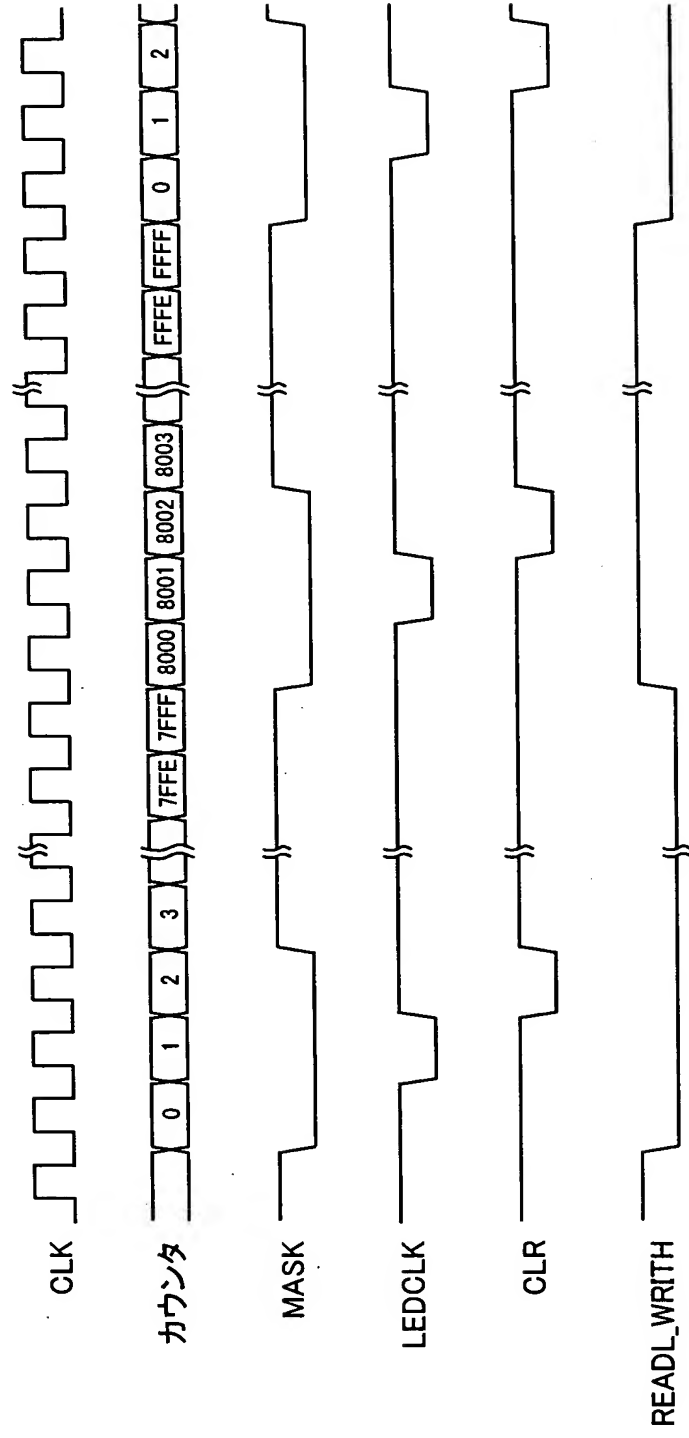


FIG.6

T1

| カウンタ | 出力 |
|---------|-----------------|
| 0 0 0 0 | MASK → L |
| 0 0 0 0 | LEDCLK → H |
| 0 0 0 0 | CLR → H |
| 0 0 0 0 | READL_WRITH → L |
| 0 0 0 1 | LEDCLK → L |
| 0 0 0 2 | LEDCLK → H |
| 0 0 0 2 | CLR → L |
| 0 0 0 3 | CLR → H |
| 0 0 0 3 | MASK → H |
| 8 0 0 0 | MASK → L |
| 8 0 0 0 | READL_WRITH → H |
| 8 0 0 1 | LEDCLK → L |
| 8 0 0 2 | LEDCLK → H |
| 8 0 0 2 | CLR → L |
| 8 0 0 3 | CLR → H |
| 8 0 0 3 | MASK → H |

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FIG. 7

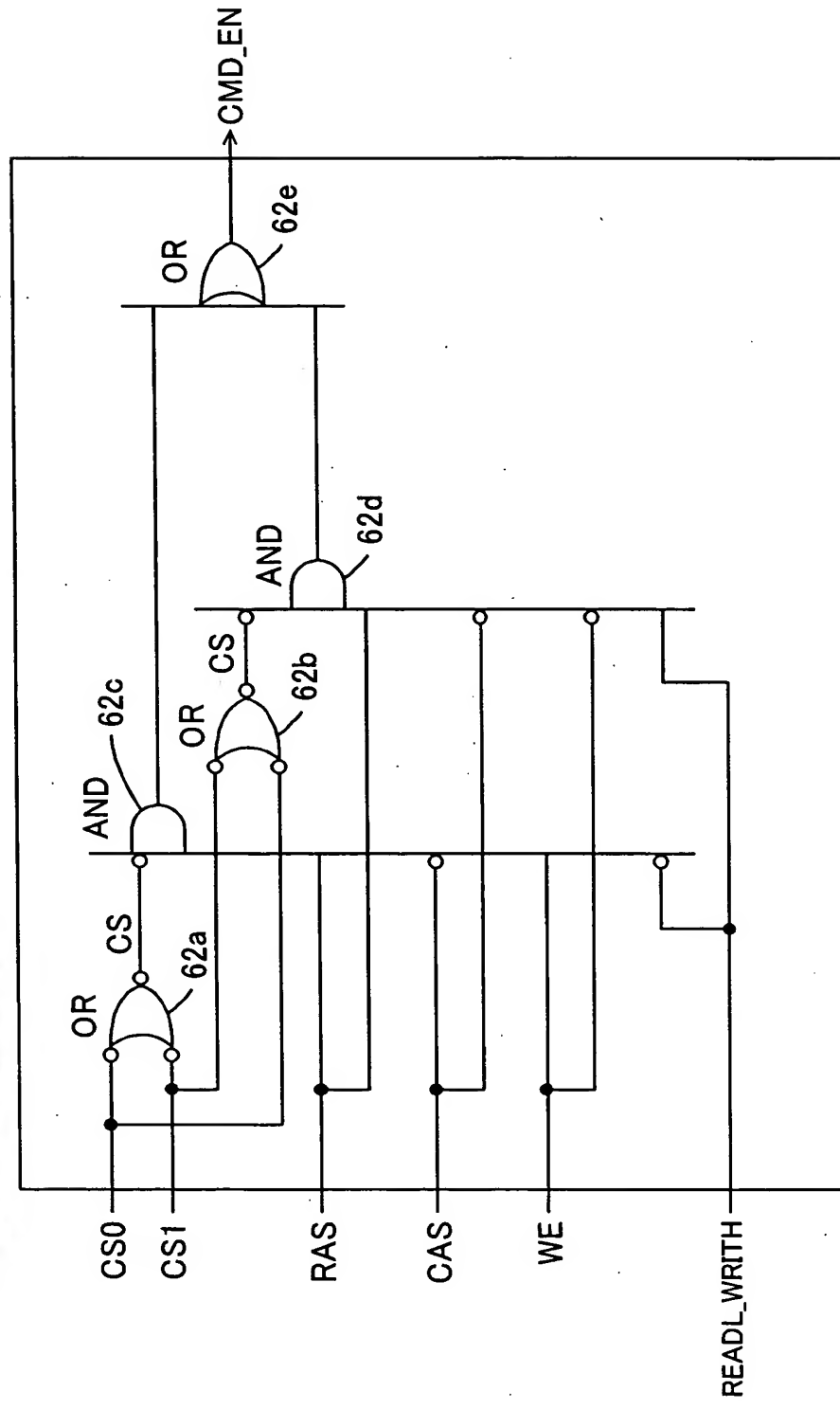


FIG. 8

FUNCTION TABLE

| 入力 | | | | | 出力 |
|----|-----|-----|----|-------------|--------|
| CS | RAS | CAS | WE | READL_WRITH | CMD_EN |
| H | X | X | X | X | L |
| L | L | X | X | X | L |
| L | X | H | X | X | L |
| L | H | L | H | H | L |
| L | H | L | H | L | H |
| L | H | L | L | H | H |
| L | H | L | L | L | L |

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FIG. 9

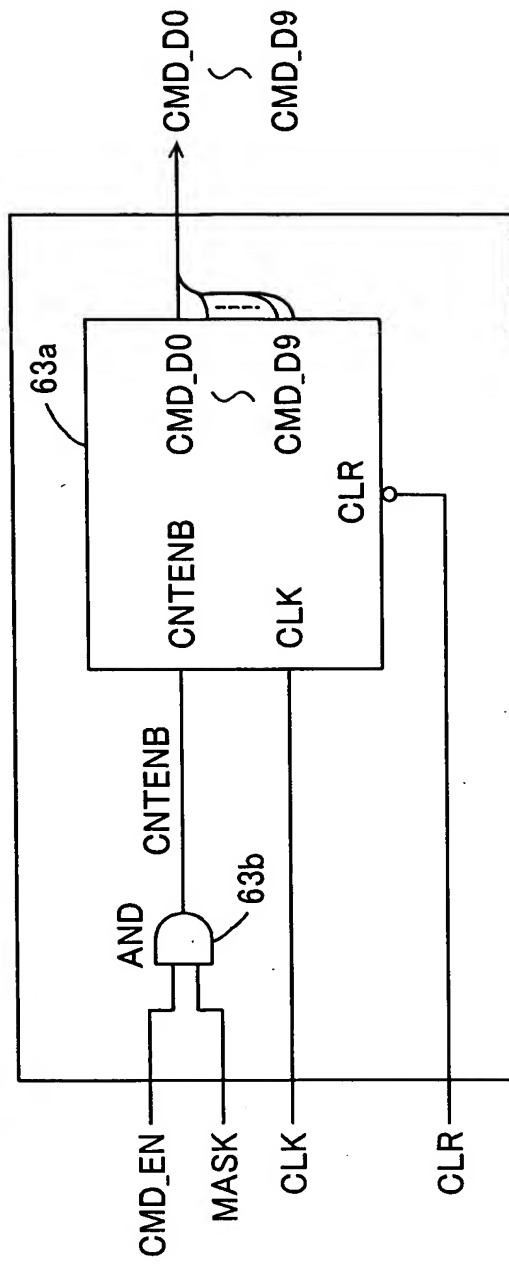



FIG. 10

FUNCTION TABLE

| 入力 | | | | 出力 |
|--------|------|-----|---|--|
| CMD_EN | MASK | CLR | CLK | CMD_D |
| X | X | L | X | All bit "0" |
| L | L | H | X | } カウント停止 |
| H | L | H | X | |
| L | H | H | X | |
| H | H | H |  | カウントアップ 0000000000← 0000000001 ↓ 1111111110 1111111111→ |

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FIG. 11

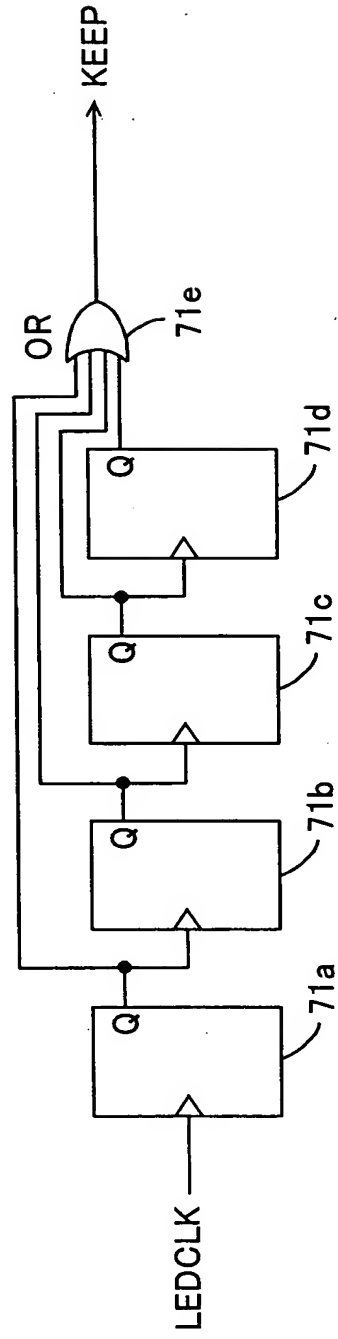


FIG. 12

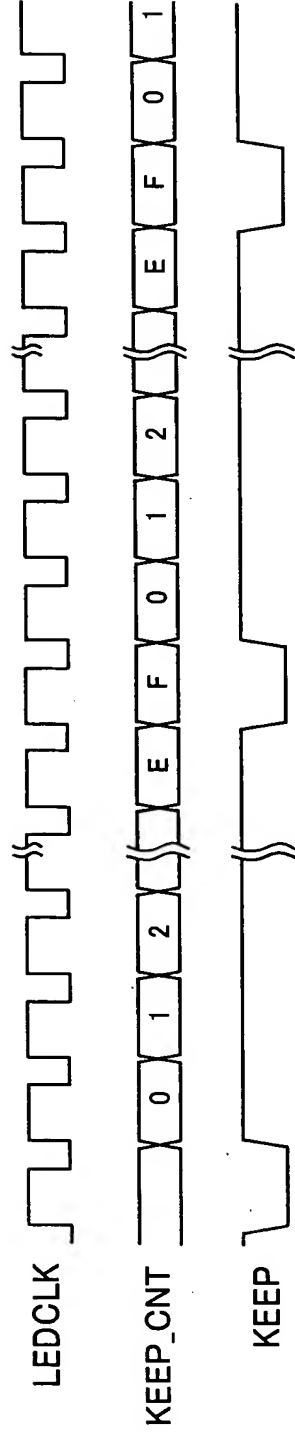


FIG. 13

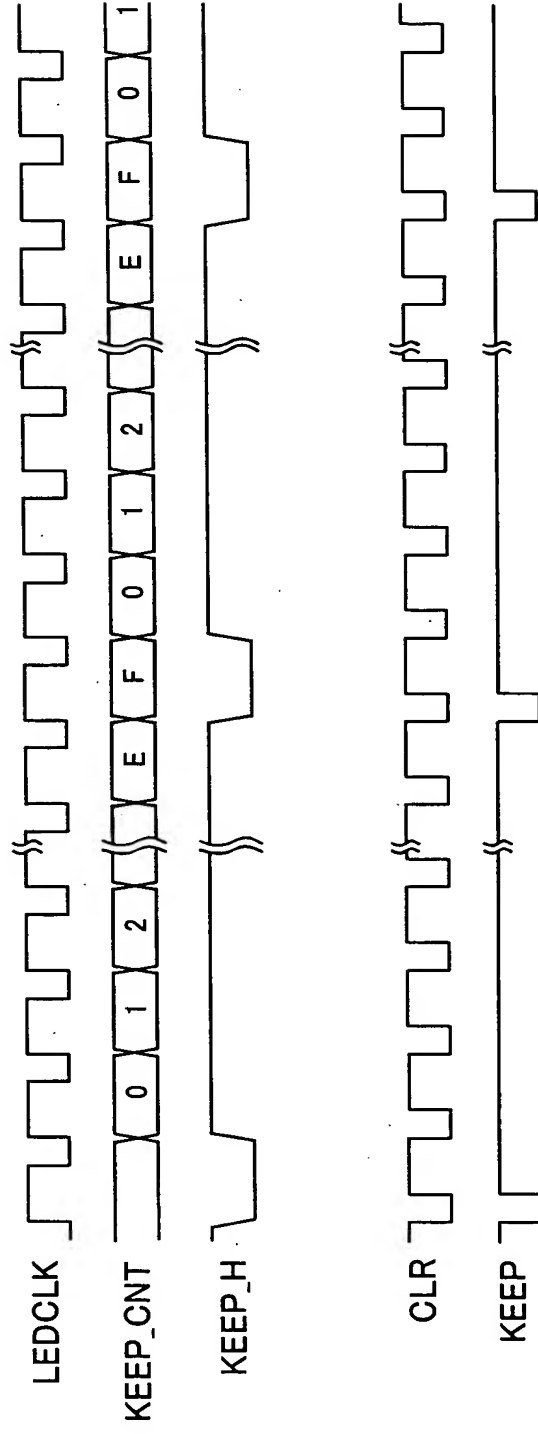


FIG. 14

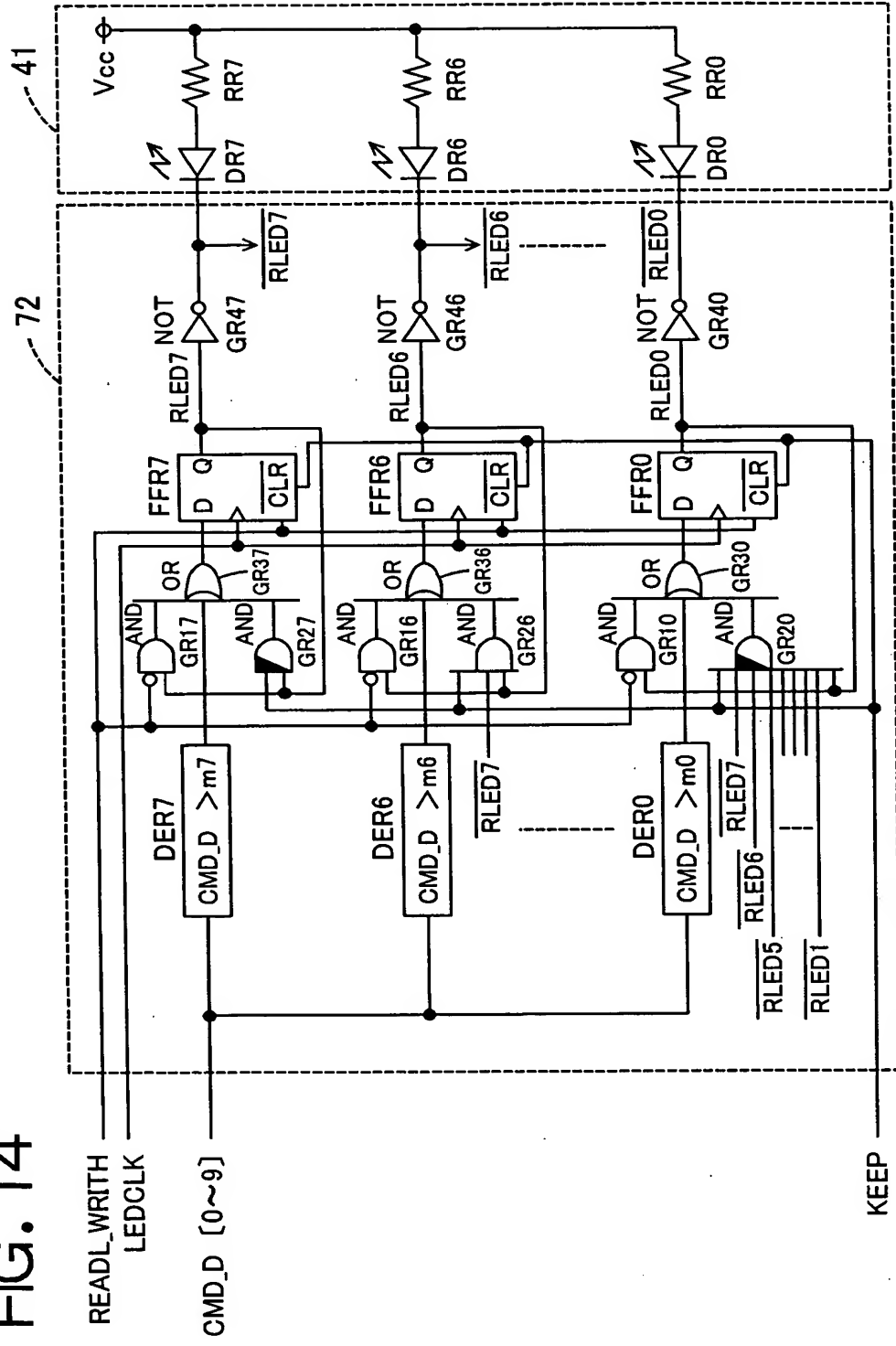


FIG. 15

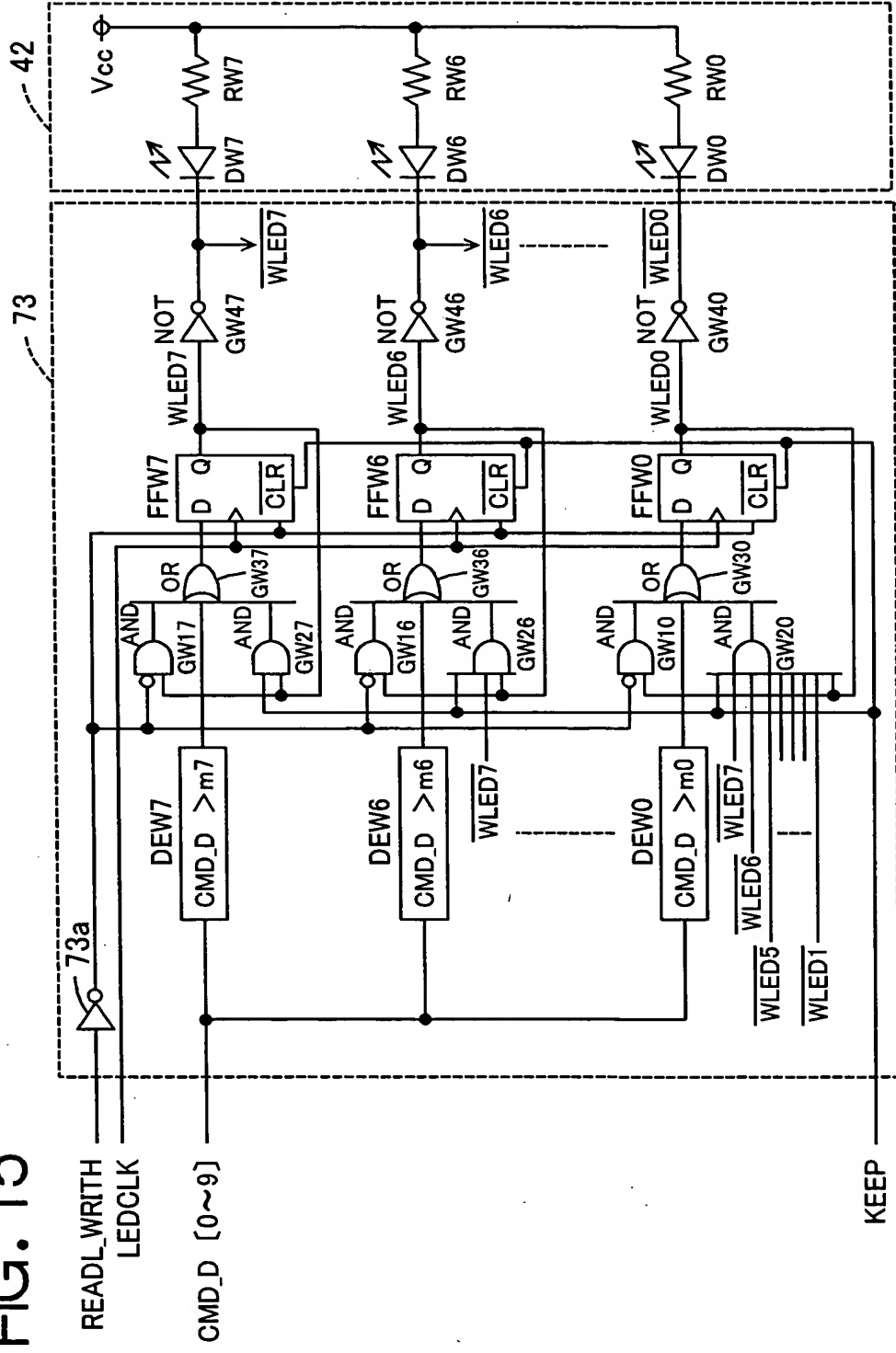


FIG. 16

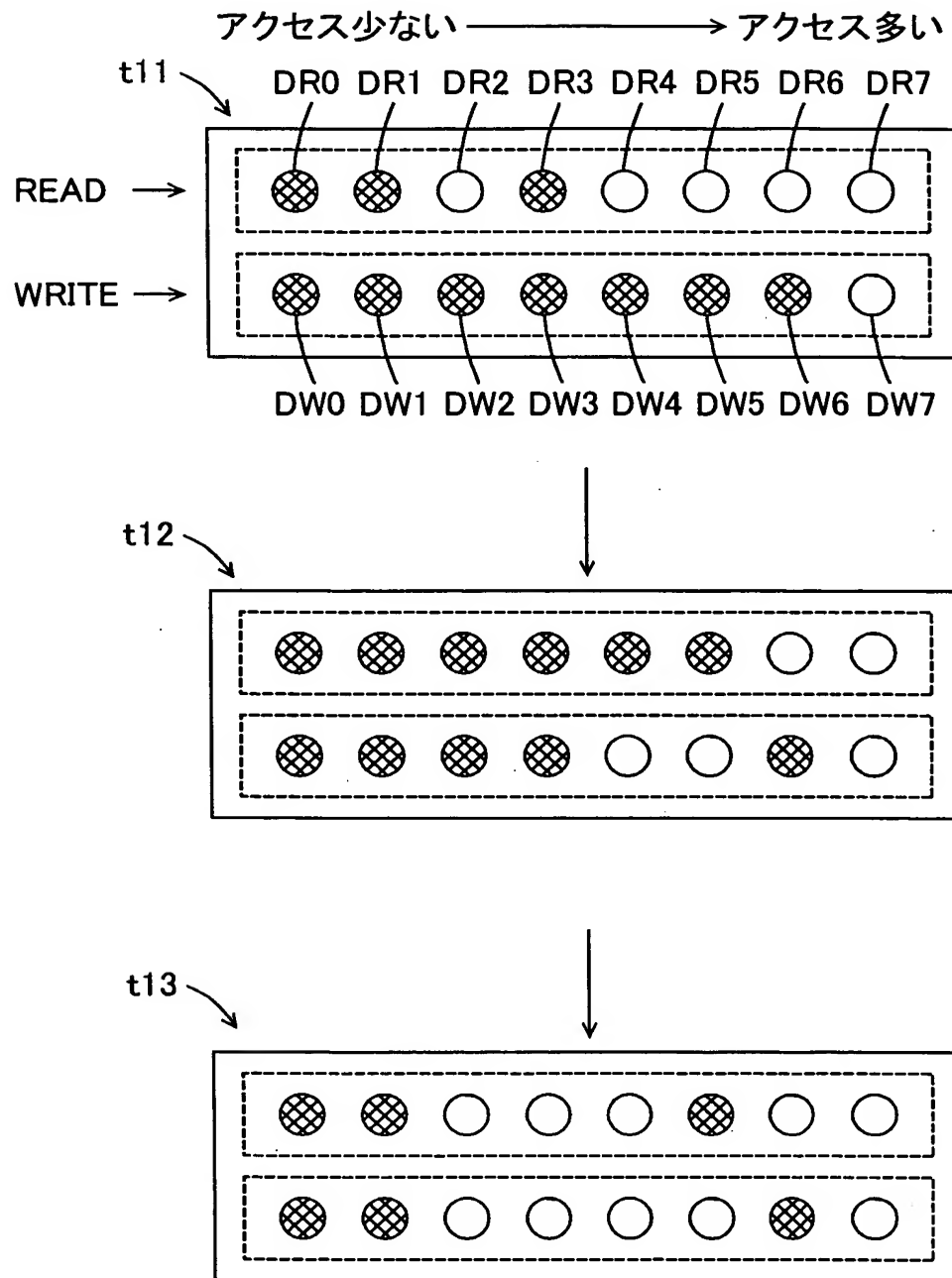






FIG. 17

FUNCTION TABLE

| 入力 | 出力 | | | | | | | |
|----------------------|------|------|------|------|------|------|------|------|
| | DER0 | DER1 | DER2 | DER3 | DER4 | DER5 | DER6 | DER7 |
| CMD_D | | | | | | | | |
| CMD_D \leq m0 | L | L | L | L | L | L | L | L |
| m0 < CMD_D \leq m1 | H | L | L | L | L | L | L | L |
| m1 < CMD_D \leq m2 | H | H | L | L | L | L | L | L |
| m2 < CMD_D \leq m3 | H | H | H | L | L | L | L | L |
| m3 < CMD_D \leq m4 | H | H | H | H | L | L | L | L |
| m4 < CMD_D \leq m5 | H | H | H | H | H | L | L | L |
| m5 < CMD_D \leq m6 | H | H | H | H | H | H | L | L |
| m6 < CMD_D \leq m7 | H | H | H | H | H | H | H | L |
| m7 < CMD_D | H | H | H | H | H | H | H | H |

FIG. 18





FUNCTION TABLE

| 入力 | | | | | | 出力 |
|-----------------|------|-------|------|---------------------------|---|-------|
| READL _WRITH | DERi | RLEDi | KEEP | $\overline{\text{RLEDj}}$ | LEDCLK | RLEDi |
| X | X | X | L | X | X | L |
| L | X | X | H | X | X | RLEDi |
| H | L | L | H | X |  | L |
| H | H | X | H | X |  | H |
| H | L | H | H | ALL H |  | H |
| H | L | H | H | (L) |  | L |

j = i+1 ~ 7

FIG. 19

FUNCTION TABLE

| READL _WRITH | 入力 | | | | | 出力 | |
|-----------------|------|-------|------|---------------------------|---|-------|--|
| | DEWi | WLEDi | KEEP | $\overline{\text{WLEDj}}$ | LEDCLK | WLEDi | |
| X | X | X | L | X | X | L | |
| H | X | X | H | X | X | WLEDi | |
| L | L | L | H | X |  | L | |
| L | H | X | H | X |  | H | |
| L | L | H | H | ALL H |  | H | |
| L | L | H | H | (L) |  | L | |

j = i+1 ~ 7

FIG. 20

